

PATENT

Attorney Docket No. 7388/72613

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

NAKAGAWA, Akira

Application No.: 10/069,723

Filed: August 31, 2000

For: HUMAN 1p36 HOMOZYGOUS DELETION REGION

December 23, 2002

RESPONSE TO NOTIFICATION OF DEFECTIVE RESPONSE

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

In response to the Notification of Defection Response dated December 2, 2002.

The items checked below are appropriate:

1. Status of Applicant

This application is on behalf of ☒ other than a small entity or ☐ a small entity.

The verified statement ☐ is attached or ☐ was filed on .

2. Documents Submitted Herewith

- ☐ Executed Declaration of inventor(s).
- ☐ Verified Statement claiming small entity status.
- ☒ Sequence Listing, 138 pages (and accompanying Statement to Support Filing and diskette).
- ☐ Verified English translation of application.
- ☒ Copy of the Notification of Defective Response.
- ☐ Other:

In re Appln. of NAKAGAWARA, Akira
Appln No. 10/069,723

3. Application Filing Fee

| APPLICATION FEES | | | | |
|---|--------------|--------------|-----------|-------|
| BASIC FEE | | | | SPAID |
| CLAIMS | NUMBER FILED | NUMBER EXTRA | RATE | |
| Total Claims | -20= | | x \$18.00 | \$ |
| Independent Claims | - 3= | | x \$84.00 | \$ |
| <input type="checkbox"/> Multiple Dependent Claims(s) if applicable | | | +\$280.00 | \$ |
| Total of above calculations = | | | | \$ |
| Reduction by 50% for filing by small entity = | | | | \$() |
| TOTAL = | | | | SPAID |

4. Fee for Late Filing of Missing Parts

Pursuant to 37 C.F.R. § 1.17(e), the surcharge for filing this Response is for ☒ other than a small entity or ☐ a small entity.

Fee Due: \$

5. Fee for Submitting a Non-English Specification

Pursuant to 37 C.F.R. § 1.17(k), the surcharge for submitting a non-English specification is included.

Fee Due: \$

6. Extension of Time

- ☐ Applicant petitions for a extension of time under 37 C.F.R. § 1.136, the fee for which is .
- ☒ Applicant believes that **no** extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Extension fee due with this request: \$

In re Appln. of NAKAGAWARA, Akira
Appln No. 10/069,723

7. Total Fee Due

The total fee due is:

| | | |
|---------------------------------|----|--|
| Surcharge | \$ | |
| Translation Fee (if any) | \$ | |
| Application Filing Fee (if any) | \$ | |
| Extension Fee (if any) | \$ | |

Total Fee Due: \$0.00

8. Fee Payment

- ☐ Attached is a check in the sum of \$.
- ☐ Charge Account No. 06-1135 the sum of \$. A duplicate of this transmittal is attached.

9. Fee Deficiency

- ☒ If any additional fee is required in connection with this communication, charge Account No. 06-1135. A duplicate of this transmittal is attached.

Respectfully submitted,

FITCH, EVEN, TABIN & FLANNERY

By:



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Registration No. 30,368

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Suite 401L
Washington, D.C. 20006-1201
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Facsimile No. (202) 419-7007

PCT

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents, Box PCT
 United States Patent and Trademark Office
 Washington, D.C. 20231
 www.uspto.gov

U.S. APPLICATION NUMBER NO.

10/069,723

FIRST NAMED APPLICANT

Akira Nakagawara

ATTY. DOCKET NO.

7388/72613

INTERNATIONAL APPLICATION NO.

PCT/JP00/05930

I.A. FILING DATE

08/31/2000

PRIORITY DATE

08/31/1999

Fitch Even Tabin & Flannery
 1801 K Street N W
 Suite 401L
 Washington, DC 20005-3960

CONFIRMATION NO. 5249

371 FORMALITIES LETTER



OC00000009179239

Date Mailed: 12/02/2002

NOTIFICATION OF DEFECTIVE RESPONSE

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as an Elected Office (37 CFR 1.495):

- U.S. Basic National Fee
- Priority Document
- Assignee Statement
- Biochemical Sequence Diskette
- Biochemical Sequence Listing
- Copy of IPE Report
- Copy of references cited in ISR
- Copy of the International Application
- Copy of the International Search Report
- Oath or Declaration
- Preliminary Amendments
- Request for Immediate Examination

RECEIVED
FITCH, EVEN TABIN & FLANNERY - DC

DEC 4 2002

CL# 7388 MT# 72613
 ATTY(S) KHC
 DUE: 1/2/03
 DKT BY (1) emg (2)

Applicant's response filed 11/19/2002 is hereby acknowledged. The following requirements set forth in the NOTIFICATION of MISSING REQUIREMENTS mailed 04/26/2002 have not been completed.

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

Applicant is required to complete the response within a time limit of ONE MONTH from the date of this Notification or within the time remaining in the response set forth in the Notification of Missing Requirements, whichever is the longer. No extension of this time limit may be granted under 37 CFR 1.136, but the period for response set in the Notification of Missing Requirements may be extended under 37 CFR 1.136(a).

The following items **MUST** be furnished within the period set forth below:

- The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with

the requirements for a disclosure as set forth in 37 CFR 1.821-1.825 for the following reason(s):

- The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A substitute computer readable form must be submitted as required by 37 CFR 1.825(d).
- APPLICANT MUST PROVIDE:
 - An initial or substitute computer readable form (CRF) of the "Sequence Listing."
- For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:
 - For Rules Interpretation, call (703) 308-4216
 - To Purchase PatentIn Software, call (703) 306-2600
 - For PatentIn Software Program Help, call (703) 306-4119 or e-mail at patin21help@uspto.gov or patin3help@uspto.gov

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

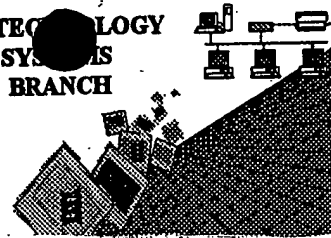
INDIA L EVANS

Telephone: (703) 305-2936

PART 1 - ATTORNEY/APPLICANT COPY

| U.S. APPLICATION NUMBER NO. | INTERNATIONAL APPLICATION NO. | ATTY. DOCKET NO. |
|-----------------------------|-------------------------------|------------------|
| 10/069,723 | PCT/JP00/05930 | 7388/72613 |

FORM PCT/DO/EO/916 (371 Formalities Notice)



5630
41

RAW SEQUENCE LISTING **ERROR REPORT**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/069,723
Source: PCT10
Date Processed by STIC: 11/19/02

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. Hand Carry directly to:
U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7th Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202
Or
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 01/29/2002



Does This Comply
Correction Note Needed

PCT10

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/069,723

DATE: 11/19/2002

TIME: 16:55:00

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Output Set: N:\CRF4\11192002\J069723.raw

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 6 <120> TITLE OF INVENTION: HUMAN 1p36 HOMOZYGOUS DELETION REGION
 9 <130> FILE REFERENCE: 72613
 11 <140> CURRENT APPLICATION NUMBER: US 10/069,723
 12 <141> CURRENT FILING DATE: 2000-08-31
 14 <150> PRIOR APPLICATION NUMBER: PCT/JP00/05930
 15 <151> PRIOR FILING DATE: 2000-08-31
 17 <150> PRIOR APPLICATION NUMBER: JP 11/245962
 18 <151> PRIOR FILING DATE: 1999-08-31
 20 <150> PRIOR APPLICATION NUMBER: JP 12/136266
 21 <151> PRIOR FILING DATE: 2000-05-09
 23 <160> NUMBER OF SEQ ID NOS: 88
 25 <170> SOFTWARE: FastSEQ for Windows Version 3.0

RED SEQUENCES

2347 <210> SEQ ID NO: 67
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 2349 <212> TYPE: DNA
 2350 <213> ORGANISM: HOMO SAPIENS
 2352 <400> SEQUENCE: 67

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- See P. 7
for explanation
of errors

RAW SEQUENCE LISTING

DATE: 11/19/2002

PATENT APPLICATION: US/10/069,723

TIME: 16:55:00

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/069,723

DATE: 11/19/2002

TIME: 16:55:00

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| 2448 | tcattttacat | acttgtcaac | cttagatttc | agaaataaca | ctgtatttgt | aatgaatgct | 5760 |
| 2449 | tcattaccaa | atgcttttct | gaagtacata | gtaagatctt | taaaaagagc | tttcatggcc | 5820 |
| 2450 | aggcgcggtg | gctcacgctt | gtaatcccag | cactttggga | ggccgaggcg | ggcgatcac | 5880 |
| 2451 | aaggtcagga | gatcaagacc | atcctggcta | acacggtgaa | accccgctctc | tactaaaaat | 5940 |
| 2452 | acaaaaaaat | tagctgggcg | tgggtggcgg | cgctgtagt | cctagctact | caggaggctg | 6000 |
| 2453 | aggcaggaga | atggcgtgaa | cctgggaggt | ggagcttgca | gtgagccgag | atcgtgccac | 6060 |
| 2454 | tccccttcag | ctagggcgac | agagggagac | tctgtctcaa | aaaaaaaaaa | aaaaaaaaaa | 6120 |
| 2455 | aagctgcttt | caaatagtgg | ttggattcat | tcaataaact | tctaattttc | atttctcttt | 6180 |
| 2456 | tttttcttga | gatgaagtct | tactctgtca | cccaggctgg | agtgcagtgc | attaatatca | 6240 |
| 2457 | gctcagtga | acctctgcct | cccgggttca | agtgattctc | ctgcctcaac | ctccccagta | 6300 |
| 2458 | gctgggatta | taggcacaca | ccactatttc | tggctaattt | ttgtgtttt | ggtagagatg | 6360 |
| 2459 | gggtttcacc | atgttcgcca | ggctagtctc | gaattcctga | cctcaagtga | tacacctgcc | 6420 |
| 2460 | ttggcctccc | aaagtgcctg | gattacaagt | gggagccacc | gcgccagct | ccatttctga | 6480 |
| 2461 | tgtgttccaa | tatttcaggg | cttaacgggt | gccttgaaat | agtaatgtgg | gccaggtgca | 6540 |
| 2462 | gtggctcacg | cctgtaatcc | cagcagttag | ggaggcggag | atgcgcagat | cacctgaggt | 6600 |
| 2463 | caggagtctg | agaccagcct | ggccaacatg | gtgaaaccct | gtctctacta | aaaataaaaa | 6660 |
| 2464 | aattagccag | ttgtagtgg | ggatgccagt | aatcccagct | actcaggagg | ctgaggcggg | 6720 |
| 2465 | agaatttctt | gaacccggga | tgagggtggt | gcagtgagcc | gagatcacac | cactgcactc | 6780 |
| 2466 | cagcttgggg | aatagagcaa | gactctgtct | tcaaaaaagaa | aagaaataga | aatgtcgttc | 6840 |
| 2467 | atttccaaat | tttggtggt | aacttaccta | aggaggataa | acattgtcac | agaatattta | 6900 |
| 2468 | ctgagcatct | actttatacc | agggtctggt | ctgaatactg | gtaacacgca | gttaatgctg | 6960 |
| 2469 | ttggtctggt | ttttcatggt | ccatgtataa | attacctctt | aaaactatga | ttgttttcat | 7020 |
| 2470 | tcattcattc | atttttgaga | tccgggtctca | aaataggctg | gggtgcagtg | gctcgataac | 7080 |
| 2471 | agctaactac | atcctcaaac | ctccaggctc | aagccatcct | ccgacctcag | cttcctaagt | 7140 |

RAW SEQUENCE LISTING

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Input Set : A:\72613.txt

Output Set: N:\CRF4\11192002\J069723.raw

| | | | | | | | |
|----------|------------|-------------|-------------|-------------|------------|------------|-------|
| 2472 | agctgggact | gcaggcatgt | gccaccatgc | ccagctagtt | gttgttggtt | tttttttttt | 7200 |
| 2473 | tggtatttgt | tgtagagaca | gggtttccacc | atgttgccca | gggtggtctt | gaactcctga | 7260 |
| 2474 | cctctagtga | tccaccagc | tccgactctc | aaaatgctga | aattacaggc | atgagccact | 7320 |
| 2475 | gagcccagcc | tattaatttt | tgattgccct | attcagattt | agtggatga | atttactgat | 7380 |
| 2476 | tgggatgttt | tgaacacaca | gaataacatg | tttaactaaa | gaacttgtaa | ttgagtgact | 7440 |
| 2477 | tataaaatga | aacattttta | tcttctaggt | attattaacc | caaagaatcc | aaaggaagct | 7500 |
| 2478 | ccaaagtcc | tcagcttcga | ctattcctac | tggtctcata | cctcagtga | taccctcatg | 7560 |
| 2479 | ccacagcact | gccagctcct | gcctcctttc | ctctttcctt | gccgatttgt | cttttctctt | 7620 |
| 2480 | agctgagcag | atccaagtgt | tgcttcttaa | ctgttggtga | gcatgagttc | attctttgat | 7680 |
| 2481 | acagtgatat | agtattttca | ttcataaagt | atttgggttg | atggaaagt | tatgtacaca | 7740 |
| 2482 | tatacataaa | tatatacaca | tatatacata | cagaacatat | ttagtttaca | ccaaatttat | 7800 |
| 2483 | actgaatgta | cactaaattt | atactgattt | agacatttct | tgaggattta | tttatcagta | 7860 |
| 2484 | tcttaggatc | ctcattacca | acattattgc | ccattgatct | taggaaatgc | caaataataa | 7920 |
| 2485 | taattattat | tattattatt | atttttcttc | tgagacggag | tctcactctg | tcgcccaggc | 7980 |
| 2486 | tggagtacag | tggtgccatc | ttggctcact | gcaacctccg | cctccgaggt | tcaagcgatt | 8040 |
| 2487 | ctcccgctc | agcctccga | gtagctggga | ttacaggcgc | gtggcactat | gccagctaa | 8100 |
| 2488 | tttttgatt | tttagtagag | acaggatttg | accatgttg | ccaggctgg | ctcgagcttc | 8160 |
| 2489 | tgaccttaag | tgatccacct | gtgtttgcct | cccaaagtgc | tgggattaca | ggtgtgagcc | 8220 |
| 2490 | actgtgcctg | gctggaaatg | ccaaattaaa | attgcttagg | gtactgttaa | ttttaagttg | 8280 |
| 2491 | aattttgagg | gaatggccag | caagattggg | aatgaccaca | gagaaattgk | tttttttttg | 8340 |
| --> 2492 | gtttgtttgt | ttgtttttgg | gtaggntgat | tttgaactcc | tgacctcctg | atccacctgc | 8400 |
| --> 2493 | ctcgacctnt | caaaatgttg | ggattaaagg | agtgagcccc | cgnmctggc | caattttttt | 8460 |
| --> 2494 | tttttaattg | tagtananca | angtgggttt | tgaacatttt | gaaagatgat | accgtgcctc | 8520 |
| 2495 | tactaaaaat | tccaaaaaaa | aaaaaaatta | ggtgggcttg | gtggcggtg | cctgtaatcc | 8580 |
| 2496 | cagctacttg | ggaggctgag | gcagggtgaa | tgcttgaaac | cagggaggtg | gaggttgca | 8640 |
| 2497 | tgagccgaga | tcgcaccact | gcactccagc | ctgggtgatg | gaacatgact | gtgtctcaaa | 8700 |
| 2498 | aaaaaaaaaa | ggaaagaggc | tcagatcca | caagggaac | aaaagattac | cagtattacg | 8760 |
| 2499 | aaaatgcaga | gtagggccct | tcttgaccc | ttactcagt | tggaaccca | aatgttgctg | 8820 |
| 2500 | cttcttaggg | attgttcata | gagtttactt | ctgcatcatt | catctctttg | ttacatgttt | 8880 |
| 2501 | ttggttttgt | ttttcctggt | ttgtattttt | ttttaagac | tgagtctcgc | tctgttgcc | 8940 |
| 2502 | aggctggagt | gcagtggcat | gatctcagct | cactgcaacc | tacacctcct | gggttcaagc | 9000 |
| 2503 | agttctcctg | cttcagcctc | ctgagtatct | gagattacag | gcaggtgcca | ccacaccgg | 9060 |
| 2504 | ctgatttttt | taatttttag | tagagatggg | gtttcgctgt | gttgccagg | ctggtctcga | 9120 |
| 2505 | attcctatcc | tcaagtgatc | tgcccgccct | ggcctcccag | agtgatggga | ttacaggcat | 9180 |
| 2506 | gagccactgt | gccctgcctt | ggggaatcga | tgttttaaac | tattgacaaa | gcctaattgt | 9240 |
| 2507 | caagggaagg | gactgagaag | gggattggaa | atgctgtttc | ctgaaagctg | tgtttattga | 9300 |
| 2508 | gaaatagtcc | cagttagctg | agtgaattca | aagaagtatt | tttatatgtg | gacttgacct | 9360 |
| 2509 | ttggtctttt | attctcattt | tccacttaag | aaaatcttgg | ctgtgtgaat | gaaagagtga | 9420 |
| 2510 | tacttttaag | gttatagaaa | gtgaaatgta | atcatgccag | ataattttat | atagatattt | 9480 |
| 2511 | ttatgtatgg | ctgacctgga | tgactctaac | agtgcattgt | tttgtgagt | tgtgtgtgtg | 9540 |
| 2512 | catgtgcgtg | tatttaaatga | gaaaagtaaa | cttgtgtata | ggaggcttaa | aaaatgtgta | 9600 |
| 2513 | gggaatttta | ggtgactgtt | ctgattccag | acacttttat | tatggaagca | atcaagtaag | 9660 |
| 2514 | tataggaaga | aatattaata | aaaggttatt | tatttctcct | tttactcttt | acagcccga | 9720 |
| 2515 | gatccctgtt | ttgcatctca | aaaccgtgtg | tacaatgaca | ttggcaagga | aatgctctta | 9780 |
| 2516 | cacgcctttg | agggatataa | tgtctgtatt | tttgccctatg | ggcagactgg | tgctggaaaa | 9840 |
| 2517 | tcttatacaa | tgatgggtaa | acaagaagaa | agccaggctg | gcatcattcc | acaggtgaaa | 9900 |
| 2518 | aacaaaacaa | aacaaaaatc | ttctcttcat | tattagtgtt | agtcttaaat | tgctttaaca | 9960 |
| 2519 | gttattttta | tttggcgaa | atttatgcgg | ggattgtttt | atgtcaggca | caaagatgaa | 10020 |
| 2520 | caaccatta | ttttccctca | gaggagctca | caattgaatg | ggaaggattg | acatgtacac | 10080 |

RAW SEQUENCE LISTING

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TIME: 16:55:00

Input Set : A:\72613.txt

Output Set: N:\CRF4\11192002\J069723.raw

| | | | | | | | |
|------|------------|-------------|-------------|-------------|-------------|-------------|-------|
| 2521 | atgtctgtca | ttaaagggtgg | gaaagtcagt | gttttghtaat | gatttttgcca | tatatccaat | 10140 |
| 2522 | gccatattat | tttgtcattt | gaaaagtgtt | accagcttgt | taaagctctg | ttctaagtc | 10200 |
| 2523 | tggagatggg | gggatattgt | tgatctgatt | ttttttcaaa | ttccatgcat | agattacctc | 10260 |
| 2524 | tgaagaatgt | gattattttt | gggtttttttg | atagccttat | toggagatac | tttcattttta | 10320 |
| 2525 | ttttccta | tttaactat | gacttttaaac | ttcaaacact | ctgagattct | ccctcttttt | 10380 |
| 2526 | tttttttttt | agaacagtta | gtattattgg | gtttgatcct | ttattgtttg | ggaatgaaga | 10440 |
| 2527 | agcgttctga | catagatatt | tattttatttt | tattttcatt | attcgtttca | cttaggattt | 10500 |
| 2528 | aatggtgaaa | gacataagta | tttaaaaaga | acttcattat | ttacttattt | atttgagaca | 10560 |
| 2529 | gggtctcact | ctgttgcccc | tgctggagtg | cagtgggtgtg | atcttggtct | actgaggcct | 10620 |
| 2530 | tgctctccca | ggctcaagtg | atcctcctgc | cttagcctcc | agagttagctg | ggactaaagc | 10680 |
| 2531 | catgtgccac | cacacctagc | tcatttttta | attaaaaaaa | aaaaaaattt | tttttttttt | 10740 |
| 2532 | ttgaggtgga | gtctctctct | gttgcccagg | ctggagtga | atggcgccat | cttggtctac | 10800 |
| 2533 | tgcaacctcc | gcctcctggg | ttcaagtgat | tctcctgcct | cagcctccca | agtagctggg | 10860 |
| 2534 | acaataggca | cccaccacta | tgcttggtta | atttttgtat | ttttagtaga | ggcggggttt | 10920 |
| 2535 | caccatgttg | gtcctggtct | ggatctcctg | acctcaggca | atccgcccac | ctccgcctcc | 10980 |
| 2536 | caaagtgcag | ggattgcagg | catgagtcac | catgcccggc | ctttaaaatt | tttttttttag | 11040 |
| 2537 | agacagggtc | tcaccatgtt | gtccaggctg | gtctcgaatg | gacctgggct | ccatcctggg | 11100 |
| 2538 | cttgggatga | tctgcctgcc | tcgacttcca | gaagtactgg | gattacaggc | atgagccact | 11160 |
| 2539 | gtgcggggcc | taaaaactta | agaaaaaaa | aagattaagt | gagaagattg | tatttaaaat | 11220 |
| 2540 | tttcctttta | tagtcatgca | tcacttaagg | gtgggggtac | attttgagaa | atgcatcatt | 11280 |
| 2541 | agtcgttagg | tgcttttgtc | attgtacaga | tatcatagag | tgtacttaca | caaaccctgg | 11340 |
| 2542 | aagggtgtaa | ctgctccaca | cctagactgc | gttgtatagc | ctgttgctcc | aaggctataa | 11400 |
| 2543 | acttgtgtag | catgctactg | tactgaatac | tacaggcaat | tataatagga | tggtaaagtat | 11460 |
| 2544 | ttgtatatct | aaacatagaa | aagtacatta | aaaatatgat | ataaaagatt | tgaaatggca | 11520 |
| 2545 | cacctgcata | gtgctcttac | actggagctt | gcagggtctg | aagttgctct | gggtgagtca | 11580 |
| 2546 | gtgagcaagt | ggtgagtaaa | tgtgaaggcc | taggacattg | ctttgcagta | ttgtagactt | 11640 |
| 2547 | tataaatgct | gcacacttag | gctacactaa | atttagtttt | aaaaacagtt | tcctttcaat | 11700 |
| 2548 | aattaaacct | agttaaatta | ctataacttt | tttactttat | aaactttaaa | attttttaaa | 11760 |
| 2549 | ctttctgata | ctttttataat | aaccttttagt | ttaaaacaca | aacagcccca | gcatggtggc | 11820 |
| 2550 | tcatgcctgt | aatcccatca | ctttgggagg | ccaaggcggg | tggatcactg | gaggtcagga | 11880 |
| 2551 | gttcgagacc | agcctgacca | acatggtgaa | accccggtgc | tactaaaaat | acaaaaaaat | 11940 |
| 2552 | gagccaggca | tggtggcgca | tgctgtaat | cccagctact | tgggaggctg | aggcaggaga | 12000 |
| 2553 | attgcttgaa | cccaggagac | ggaggttgca | gtgagctgag | atcgcgccat | tgactcttag | 12060 |
| 2554 | catgagcaac | aagagtga | ctcggtctca | aaaaaaaaaa | aaagaaacca | cacacacact | 12120 |
| 2555 | ttgtacagct | gtacaaaaat | attttctttc | ttcatatctt | tattctataa | gcttttttgt | 12180 |
| 2556 | attttttaat | tttttttttc | tttcttgaga | cagagtcttg | ctttgtcacc | caggctggag | 12240 |
| 2557 | tacagtggcg | ccctatcagc | tcactgcaac | ctccgcctcc | tgggttcaat | taattcttgt | 12300 |
| 2558 | gccttagcct | cctgagtagc | tgggactaca | ggcacgtacc | accacgtctg | gctaattttt | 12360 |
| 2559 | gtatttttag | tagagacggg | gtttcacaa | gttgccagg | ctggtcttga | actcctggcc | 12420 |
| 2560 | tcaagtgate | tgctgcctt | ggcctcccaa | agtgtgaga | tttacaggcg | tgagccactg | 12480 |
| 2561 | cacctggcca | aatttttttt | tttttttttt | agacagagtt | tcactcctct | tgcccaggct | 12540 |
| 2562 | ggaatgcagt | ggcacgatct | tggtcactg | caacctccgc | ctcctgggtt | caagcgattc | 12600 |
| 2563 | tcctgcctca | gcctccagaa | tagctgggac | tatttttgta | tttttagtag | agatgggggt | 12660 |
| 2564 | tcaccatgtt | ggccaagatg | ttctcgatct | cctgaccttg | tgatctgcct | gcctcgtcct | 12720 |
| 2565 | cccaaagtgc | tgggattaca | ggcatgagcc | accttgccca | gccccaaatt | tttaattttg | 12780 |
| 2566 | aaaaaaaatt | taaacttttt | tgttaaaaac | ttaggcacac | atttatttagc | ctaggcctac | 12840 |
| 2567 | acagggtcag | gatcatcaag | atatcactag | gtgacaggaa | ttttccagct | ttcttataat | 12900 |
| 2568 | cttatgggga | tcactatcat | atatgcagtc | catcggtgac | cgaatcatgg | ttatgcagcg | 12960 |
| 2569 | catgactgac | tttattcaaa | gcattaatcg | tatcttgatg | tttatgacat | aatatatatt | 13020 |

RAW SEQUENCE LISTING

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Input Set : A:\72613.txt

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2570 gagatggagc aagaaaggac gtctggctaa ttcattgagc acgcgtggat gacttagtac 13080
2571 tcctctcatt tgtgctcttc atgcctctct cattctactt ccctagtatt gtgaagaact 13140
2572 ttttgagaaa atcaatgaca actgtaatga agaaatgtct tactctgtag aggtgagtag 13200
2573 agccgtgagt tgacaccgta agcccttggt ttccattctc tcaagcatca cttaaatggc 13260
2574 tccaaattat gactgtggta cacatcactt caccattcct tcatttttgt cttttcaggc 13320
2575 tattttctggg ttttgggtat aatgaatagt gtcctgcttt aatctttttt ttgggggggtg 13380
2576 cgcggtgggg acaggggtctc actctgttgc ccaggccctg gagtgcagtg gcgtgatcac 13440
2577 agctcactgc agccttgacc ttctgggcca aagcgatctt accccctcag cttctcaagt 13500
2578 agctgggaca acaggtgtgt gccaccacca cccctagata attgattttt ttgtagagat 13560
2579 ggagtttccc tatgttgccc aggttggtgt tgaactcttg ggctcaagca atcttgccctc 13620
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2581 ctttgttcat aagtctgtgc atttatttgc agttattatc ttttgtatgt ttcttggttt 13740
2582 ttaaataata catttgaatt gccaaatgcc ttttggaaa gtaatgctgg gtaacagttt 13800
2583 tcagtcacac taggagggtg taagcaccca ttgtgccctt gccaacattt ttctattttt 13860
2584 taatctttgc taatttgata atgtaagtat tctcttactt aaattttgaa tttctttgat 13920
2585 tactagt 13927
6306 <210> SEQ ID NO: 83
6307 <211> LENGTH: 614
6308 <212> TYPE: DNA
6309 <213> ORGANISM: HOMO SAPIENS
6311 <400> SEQUENCE: 83
6312 gtaaagatgg gggtagagaa aacaattaaa tagaacaaaa acaactgttt ctttttcttg 60
6313 tgattcaaga agggcttaga tcttctactc agcatccttt tactaatgcc ctccattggc 120
6314 tctcacccca acatttcttt ttttatagct tattttgtaa tgctctctta attatccttt 180
6315 aatagaagcc accgctgata agctacctac actcatacag aagcattaat ataatgcccc 240
6316 agatgtactg tttcaggggc aaaaaggaaa ataatttcca acaaagtggg gtgtgtttca 300
E--> 6317 ctgtcagatg cttgcactta cacacngaag cgctgggcat ccgacagagg ctgattggca 360
E--> 6318 catgggggca cgggggattg gncagctnaa accccggncn gcagcgggtg cccctttggg 420
E--> 6319 aaaatgggga ttttccaaa aacaagtaaa accggggntt ggtccttgga ttttaccaga 480
E--> 6320 gtangctacc atttcttagc tttgggatnc ccgnccatna aggggccaat ttcaactggg 540
E--> 6321 ccggtcgttt tnaccaacgn tcgtgactgg ggnaaaancc cttggcggtt acccccaact 600
E--> 6322 tnaatngnct ttgg 614

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VARIABLE LOCATION SUMMARY

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Input Set : A:\72613.txt

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Use of n's or Xaa's (NEW RULES) :

Use of n's and/or Xaa's have been detected in the Sequence Listing.

Use of <220> to <223> is MANDATORY if n's or Xaa's are present.

in <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents. }

Seq#:54; N Pos. 117,205,236,271

Seq#:55; N Pos. 1,122,424

Seq#:56; N Pos. 336,346,360,366

Seq#:59; N Pos. 443

Seq#:67; N Pos. 8366,8409,8443,8445,8476,8478,8482

Seq#:83; N Pos. 326,382,388,398,400,459,484,509,514,519,552,560,573,578,602

Seq#:83; N Pos. 606,608

VERIFICATION SUMMARY

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Input Set : A:\72613.txt

Output Set: N:\CRF4\11192002\J069723.raw

L:930 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54 after pos.:60
L:932 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54 after pos.:180
L:933 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54 after pos.:240
L:947 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55 after pos.:0
L:949 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55 after pos.:120
L:954 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:55 after pos.:420
L:972 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:56 after pos.:300
L:973 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:56 after pos.:360
L:1032 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:59 after pos.:420
L:2492 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:67
M:340 Repeated in SeqNo=67
L:6317 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:83
M:340 Repeated in SeqNo=83